CLAIMS

We claim:

1. Biological material for preparing pharmaceutical compositions for treating a mammal by gene transfer, comprising, either at least a nucleic acid sequence containing a therapeutic gene and in a form enabling *in vivo* transfer of said gene into the cells of the mammal, or at least one cell of the mammal not naturally producing antibodies, genetically modified *in vitro* by at least a previous nucleic acid sequence, and in a form enabling its incorporation into the mammal's organism as well as optionally its previous culture. The invention is characterized by the fact that said nucleic acid sequence contains an antibody gene and elements for expressing *in vivo* said antibody gene and the secretion in the blood circulation of a mammal of a therapeutically effective amount of this antibody or a fragment of it, by cells of said mammal genetically modified by said nucleic acid sequence and not naturally producing antibodies.

2. Biological material according to claim 1, characterized by the fact that it includes a nucleic acid sequence containing an antibody gene and elements for expressing *in vivo* said antibody gene and the secretion in the blood circulation of a mammal of a therapeutically effective amount of this antibody or a fragment of it, by cells of said mammal genetically modified by said nucleic acid sequence and not naturally producing antibodies. This sequence is in the form of a virgin DNA or RNA sequence.

3. Biological material according to claim 1, characterized by the fact that it includes a nucleic acid sequence containing an antibody gene and elements for expressing *in vivo* said antibody gene and the secretion in the blood circulation of a mammal of a therapeutically effective amount of this antibody or a fragment of it, by cells of said mammal genetically modified by said nucleic acid sequence and not naturally

producing antibodies. This sequence is a complex or is conjugated with a molecule or carrier substance.

4. Biological material according to claim 1, characterized by the fact that it includes a nucleic acid sequence containing an antibody gene and elements for expressing *in vivo* said antibody gene and the secretion in the blood circulation of a mammal of a therapeutically effective amount of this antibody or a fragment of it, by cells of said mammal genetically modified by said nucleic acid sequence and not naturally producing antibodies. This sequence is a vector permitting the effective transfer *in vivo* of the antibody gene in cells.

5. Biological material according to claim 4, characterized by the fact that the vector is a biological viral vector.

6. Biological material according to claim 1, characterized by the fact that it is comprised of cells not naturally producing antibodies, in a form which permits their incorporation into the mammal's organism as well as optionally its previous culture. Said cells are genetically modified by at least one nucleic acid sequence containing an antibody gene and elements for expressing *in vivo* said antibody gene and the secretion in the blood circulation of a mammal of a therapeutically effective amount of this antibody or a fragment of it.

7. Biological material for the preparation of pharmaceutical compositions for the treatment of mammals with gene transfer, according to claim 6, characterized by the fact that the cells not naturally producing antibodies come from the mammal to be treated.

8. Biological material for the preparation of pharmaceutical compositions for the treatment of mammals with gene transfer, according to claim 6, characterized by the fact that the cells not naturally producing antibodies come from another mammal than the one to be treated and have undergone treatment making them compatible.

9. Biological material according to any of the preceding claims, characterized by the fact that the cells not naturally producing antibodies are selected from those which have:

- the ability to be able to secrete proteins in the blood circulation of a mammal;
- a long life in the mammal's organism.

10. Biological material according to claim 9, characterized by the fact that the cells not naturally producing antibodies are selected from those which may be easily be sampled, genetically modified *ex vivo* and implanted in a mammal.

11. Biological material according to any of claims 9 and 10, characterized by the fact that the cells not naturally producing antibodies are selected from keratinocytes, hepatocytes, skin fibroblasts, myoblasts, endothelial cells and hematopoietic stem cells.

12. Biological material according to any of the preceding claims, characterized by the fact that the antibody gene is a gene coding for a virgin antibody, fragment or derivative of this antibody such as a chimerical antibody.

13. Biological material for the preparation of pharmaceutical compositions for the treatment or prevention of cancer in a subject, in accordance with claim 12,

characterized by the fact that said antibody, fragment or antibody derivative is directed against a specific tumor cell antigen.

14. Biological material for the preparation of pharmaceutical compositions for the treatment or prevention of an infection or viral expansion in a subject, according to claim 12, characterized by the fact that said antibody fragment or antibody derivative is directed against a specific antigen of the virus responsible for said infection or against a specific antigen of cells infected by said virus.

15. Pharmaceutical composition comprised of a biological material according to any of claims 1 to 14 preferably associated with a pharmaceutically acceptable vehicle.

16. A human or non-human cell not naturally producing antibodies, characterized by the fact that it is genetically modified by at least a nucleic acid sequence containing a therapeutic antibody gene and elements guaranteeing the expression *in vivo* of said antibody gene and the secretion in the blood circulation of a mammal having received said cells of a therapeutically effective quantity of this antibody or a fragment of it.

17. Use of a biological material according to any of claims 1 to 14 or cells according to claim 16, for the preparation of a pharmaceutical composition for the treatment of cancer or viral infections.

18. Use of a nucleic acid sequence containing an antibody gene and elements guaranteeing the expression *in vivo* of said antibody gene and the secretion in the blood circulation of a mammal of a therapeutically effective quantity of this antibody or a fragment of it. The cells of said mammal genetically modified by said

nucleic acid sequence and not naturally producing antibodies, for the preparation of pharmaceutical compositions for the treatment of mammals with gene transfer.

19. Use according to claim 18, for the preparation of a pharmaceutical composition for the treatment of cancer or viral infections.

20. Manufacturing process for a cell according to claim 16, characterized by the fact that using any appropriate method, one transfers at least one nucleic acid sequence containing an antibody gene and elements guaranteeing the expression *in vivo* of said antibody gene and the secretion in the blood circulation of a mammal of a therapeutically effective quantity of this antibody or a fragment of it, by cells of said mammal genetically modified by said nucleic acid sequence and not producing antibodies naturally in cells not naturally producing antibodies, and by the fact that those cells genetically modified by said nucleic acid sequence are chosen from among these cells.